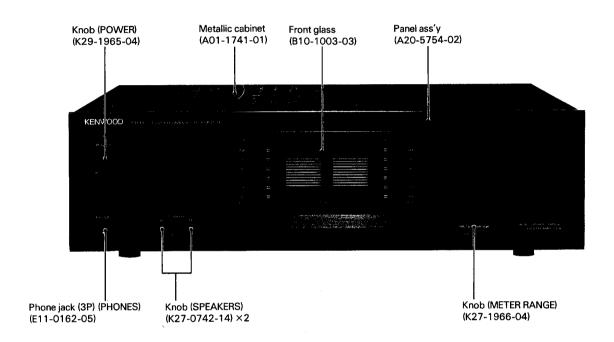
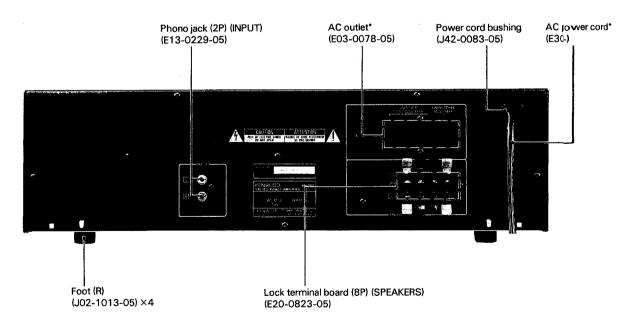
KM-208 SERVICE MANUAL

KENWOOD

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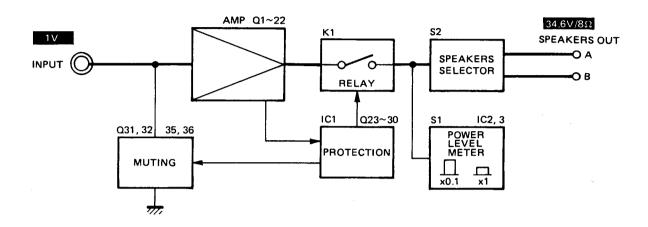




KM-208

BLOCK DIAGRAM/CIRCUIT DESCRIPTION

BLOCK LEVEL DIAGRAM



CIRCUIT DESCRIPTION

Description of Components

POWER AMPLIFIER UNIT (X07-2430-XX, X07-2460-XX)

Components Application/Function		Operation/Condition/Compatibility
Q1 ~ 4	Initial stage differential amplifier	Low noise.
Q5 ~ 8	2nd stage differential amplifier	
Q9, 10	3rd stage amplifier	Class A cascade current amplifier.
Q11,12	3rd stage amplifier	Class A cascade voltage amplifier.
Q13,14	Bias temperature compensation	
Q15 ~ 18	Class B driver	
Q19 ~ 22	Power amplifier	
Q23 ~ 30	Current protection	
Q31,32	Input muting	
Q33	Driver for realy driver IC	Current protection.
Q34	Constant voltage control	
Q35,36	Muting driver	
037	AVR	For meter driver.
IC1	Relay driver IC	
IC2,3	Meter driver	

ADJUSTMENT/REGLAGE/ABGLEICH

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT		Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	VRI (L) VR2 (R)	9 ∼ 18 m V	(a)

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINS L'ALIGNEMENT	ALIGNER POUR	FIG.
1	COURANT DE POLARISATION	-	Connecter un voltmètre de CC sur CP1 (G) CP2 (D)	VOLUME: 0	VR1 (G) VR2 (D)	9 ~ 18mV	(a)

ABGLEICH

NR.	GEGENSTAND	EINGANGS- Einstellung	AUSGANGS- Einstellung	VORSTARKER Einstellung	ABGLEICH- Punkte	ABGLEICHEN FUR	ABB.
1	LEERLAUFSTROM		Einen Gleichspannungs- messer über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	VR1 (L) VR2 (R)	9 ~ 18mV	(a)

KM-208

VOLTAGE CHECK TABLE

X07-2430-XX X07-2460-XX

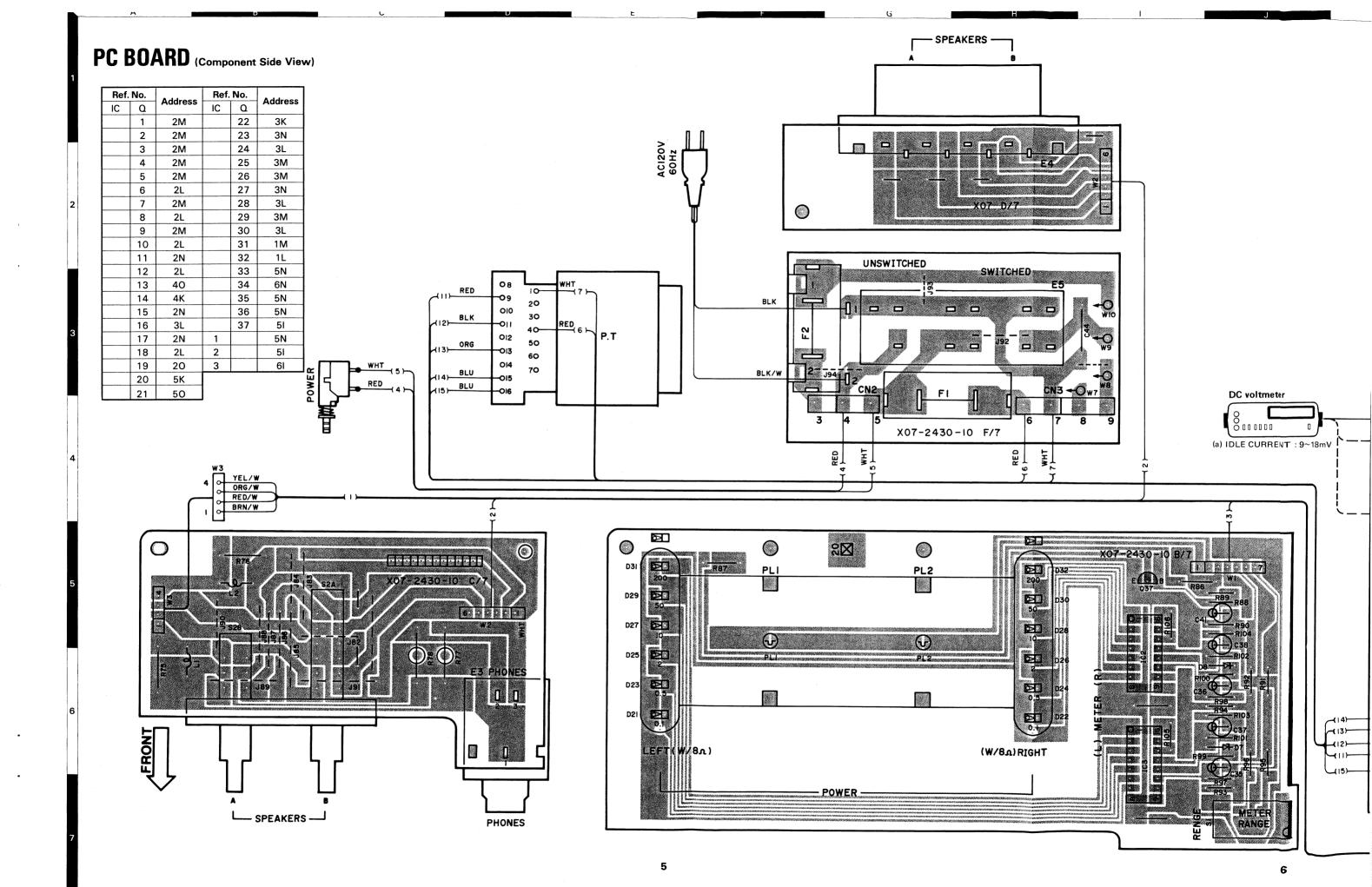
	В	С	E
Q1 - 4	_	17.7V	– 18V
Q5, 6	17.7V	80.3V	17V
Ω7,8	17.7V	81V	17V
Ω9, 10	80.3V	77.8V	81V
Q11, 12	77.2V	1.2V	77.8V
Q13, 14	_	1.2V	-1.2V
Q15, 16	_	81V	0.6V
Q17, 18	_	-81V	-0.6V
Q19, 20	_	81V	_
Q21, 22	_	-81V	_
023, 24	_		0∨
Ω27, 28	_		1.2V
Ω29,30	_	_	-1.2V
Q33	81V	-	81V
Q34	24V	34V	23.4V
Q35	0∨	_	0V
Q36	23V	Relay ON: -12V Relay OFF: 23V	23∨
Q37	-	_	14.7V

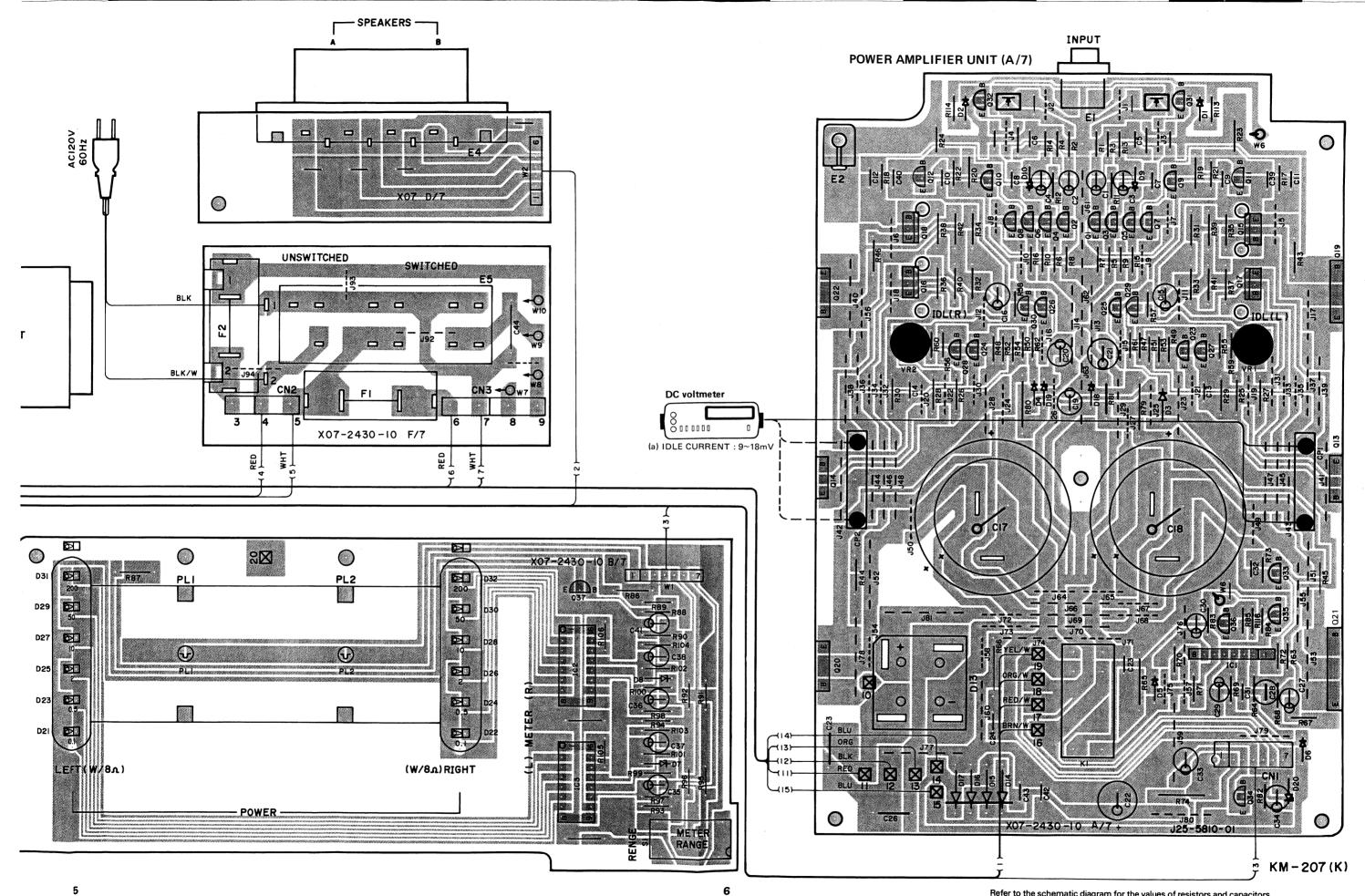
IC1

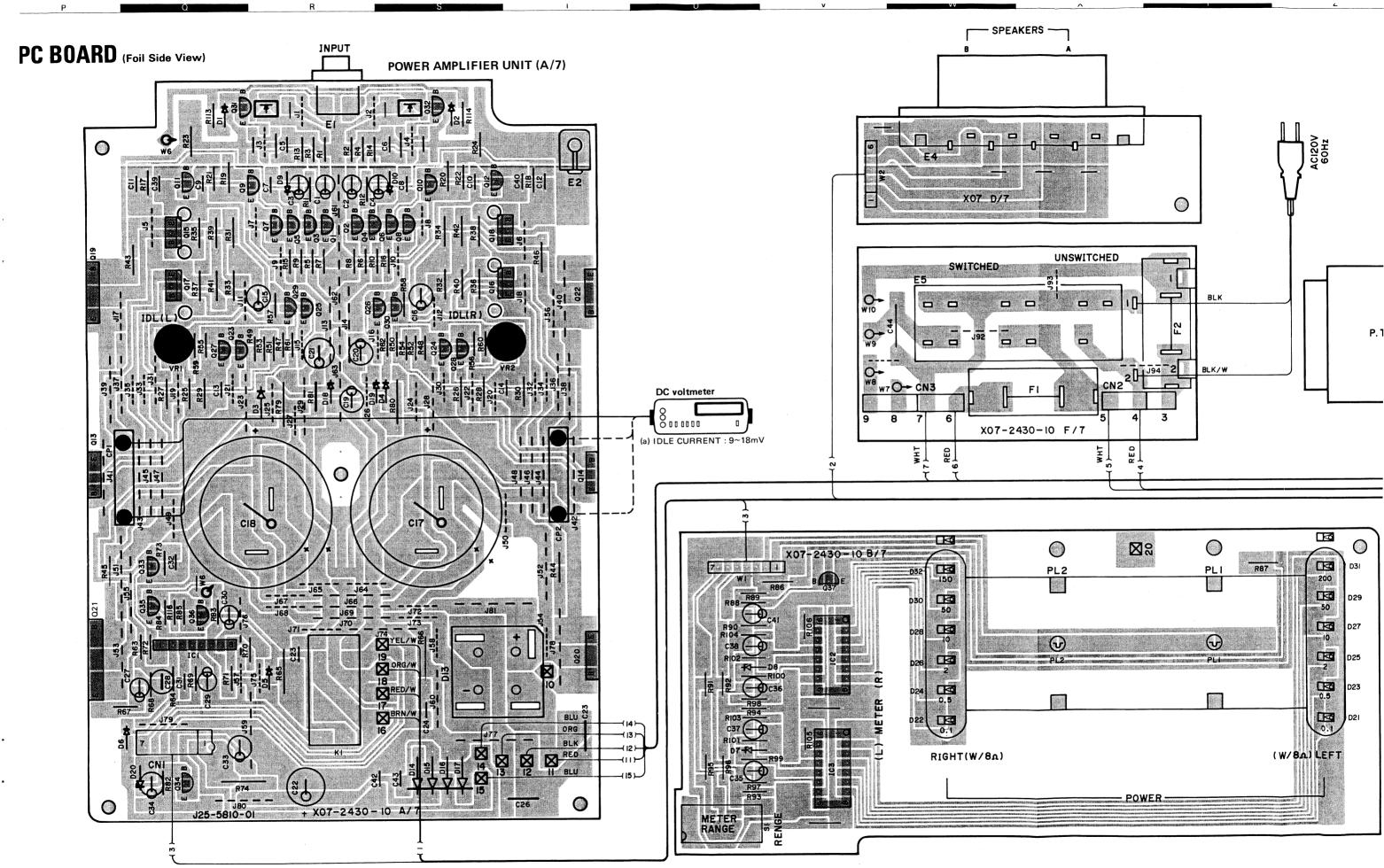
4	2.7V
5	0∨
6	0.8V
7	2.2V
8	3.2V

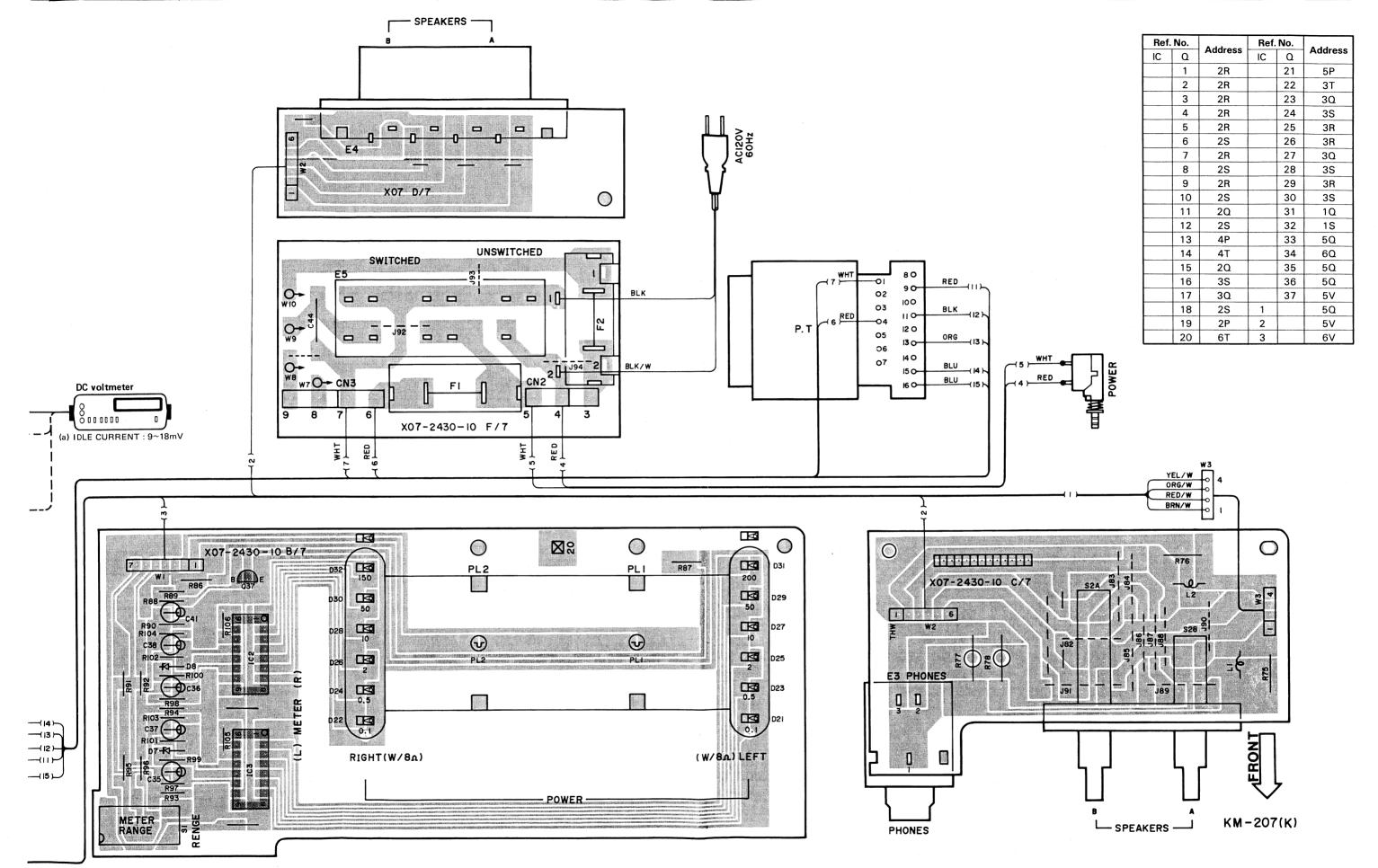
IC2 3

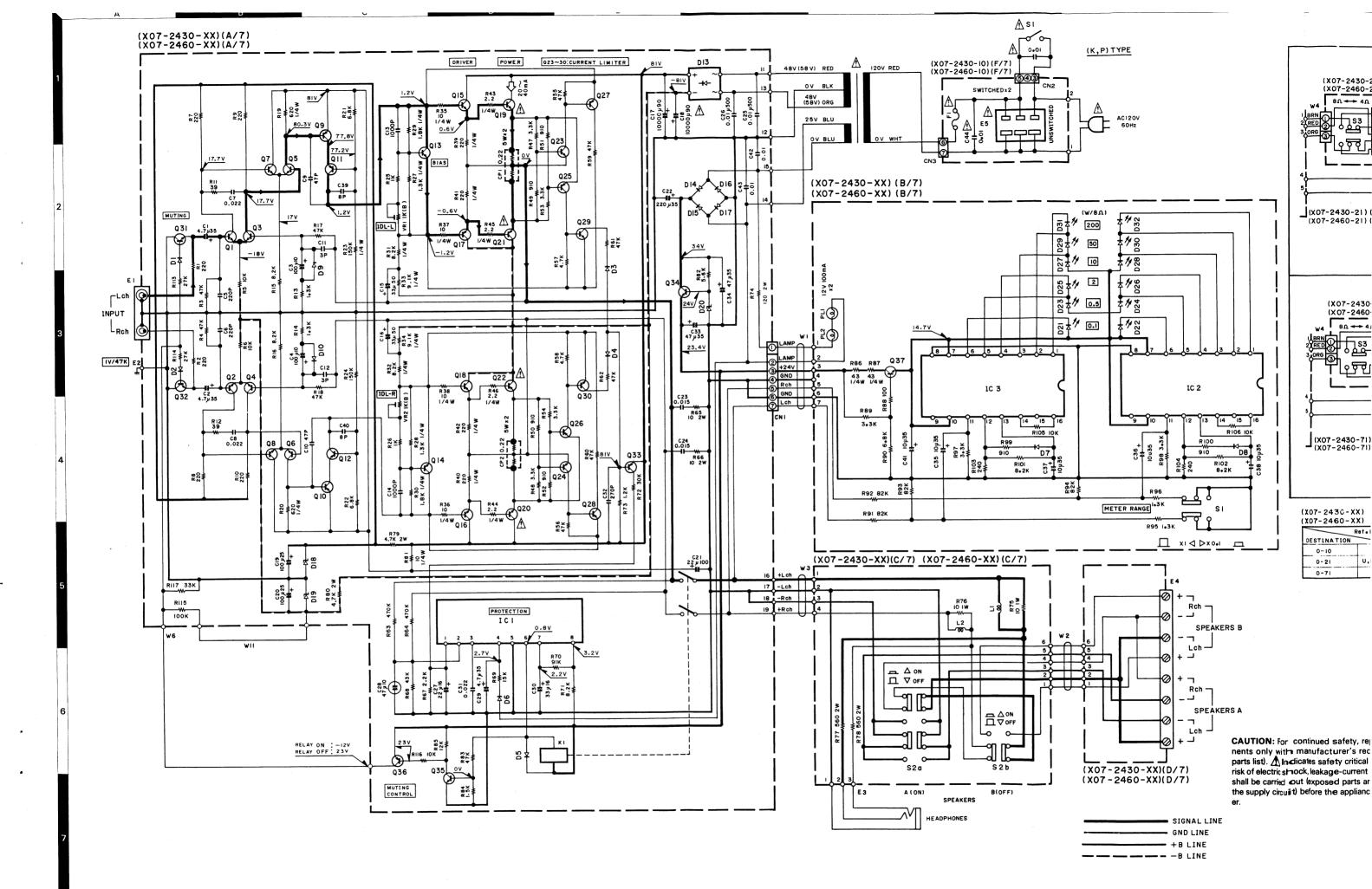
C2, U						
7	14.7V					
8	0∨					
10	14.7V					

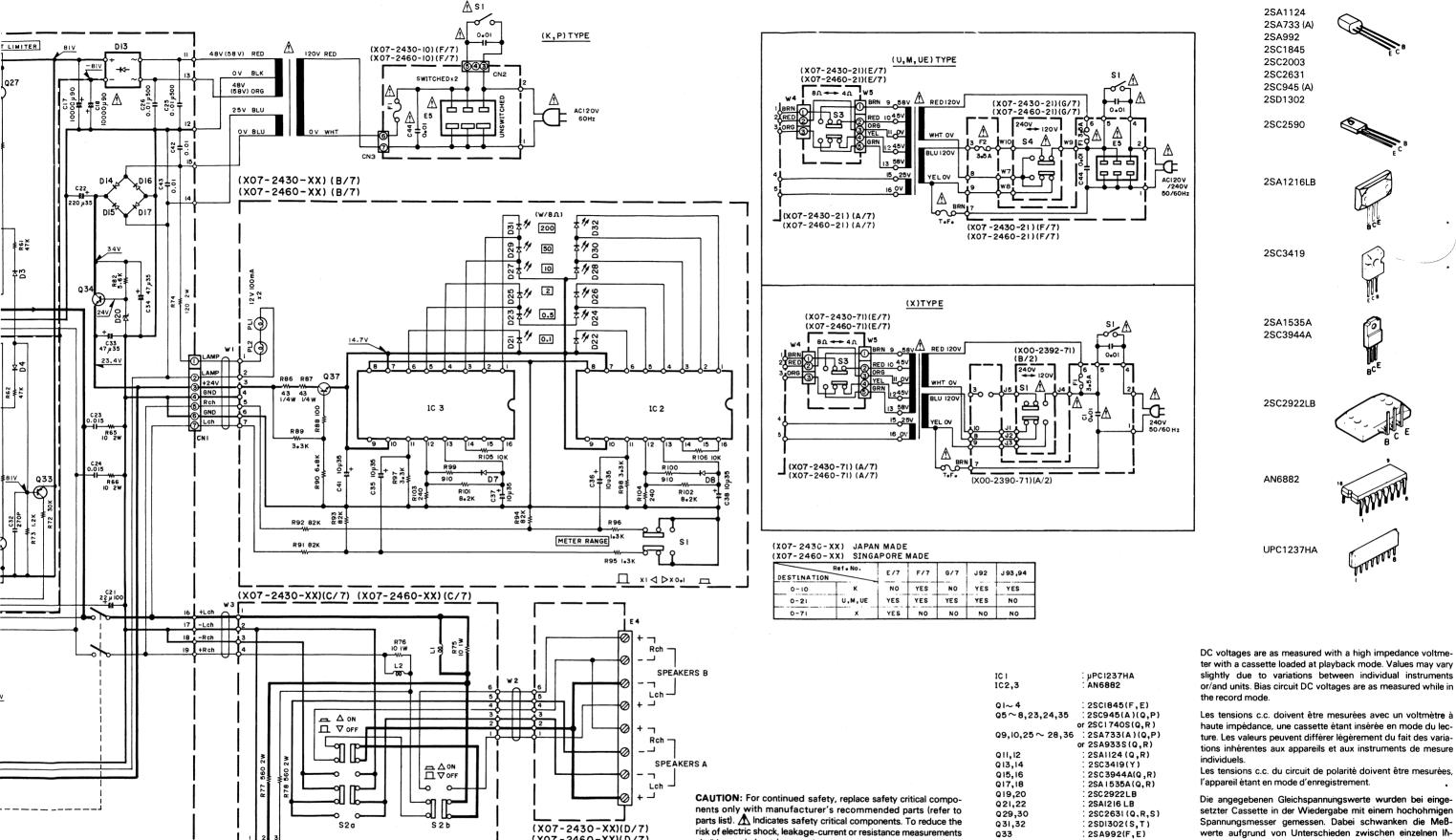












(X07-2430-XX)(D/7)

(X07-2460-XX)(D/7)

SIGNAL LINE

GND LINE

- +B LINE

S2a

A (ON)

B(OFF)

SPEAKERS

HEADPHONES

parts list). 🛕 Indicates safety critical components. To reduce the

risk of electric shock, leakage-current or resistance measurements

shall be carried out (exposed parts are acceptably insulated from

the supply circuit) before the appliance is returned to the custom-

ter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments or/and units. Bias circuit DC voltages are as measured while in

ture. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure

setzter Cassette in der Wiedergabe mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig. Die angegebenen Gleichspannungswerte der Vormagnetisierungsschaltung wurden in der Aufnahme-Betriebsart gemessen.

Q37 : 2SC2003(L,K) : ISS133 or ISS176 D1,2,7~10 D3~6 ISSI31 or ISSI78 D13 S15 VB20 D14~17 DSMIAI or S5566B

2SC2590(Q,R)

Q31,32

Q33

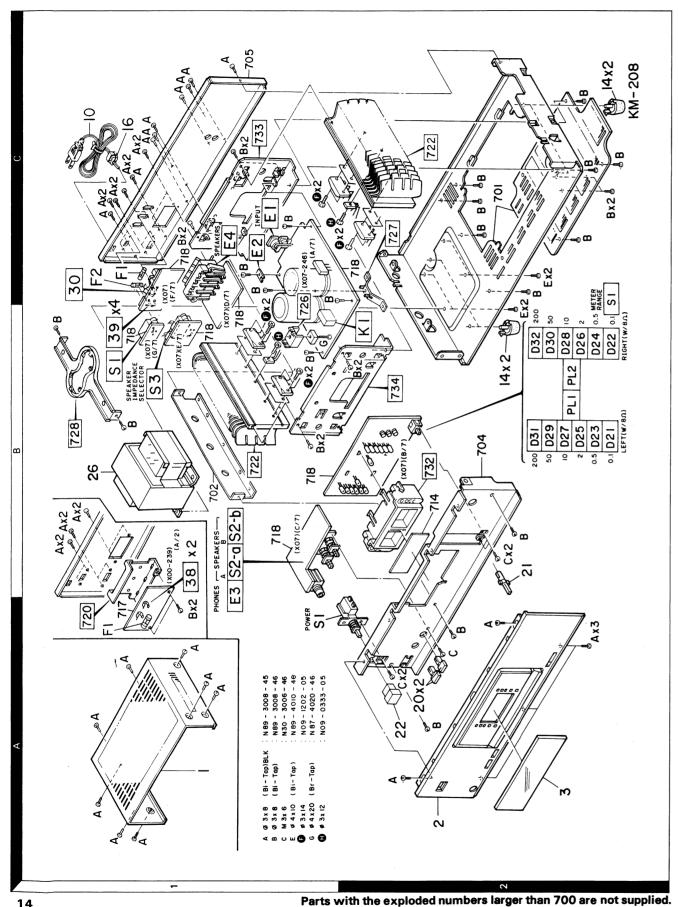
Q34

DI8, 19 D20 RDISES(B) or HZSISN(B)

: RD24ES(B) or HZS24N(B) : B30-0431-05 D21~32

Y08-3750-10

EXPLODED VIEW



PARTS LIST

* ...ew Parts

Parts without Parts No. are not supplied.

Les articles non mentionnes dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

-	Ref. No.	Address	New Parts	Parts No.	Description	Desti- Re-	
-	参照番号	位置	新	部品番号	部品名/規格	仕 向備	
	KM-208						
	1 2	1A 2A	*	A01-1741-01 A20-5754-02	METALLIC CABINET PANEL ASSY		
	3	2A	*	B10-1003-03 B46-0092-03 B46-0094-03 B46-0095-03 B46-0096-13	FR®NT GLASS WARRANTY CARD WARRANTY CARD WARRANTY CARD WARRANTY CARD WARRANTY CARD	K UUE UUE X	
			*	B46-0121-03 B50-9623-00 B50-9624-00 B50-9625-00 B58-0223-04	WARRANTY CARD INSTRUCTIØN MANUAL INSTRUCTIØN MANUAL INSTRUCTIØN MANUAL INSTRUCTIØN MANUAL CAUTIØN CARD (PRE-SET 120V)	P PMX M U	
				B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
	10 10 10	1C 1C 1C		E30-0812-05 E30-1341-05 E30-2209-05	AC POWER CORD AC POWER CORD AC POWER CORD	U <u>UE</u> M X KP	
	F1 F1 F1 ,F2	10 10 10		F05-3522-05 F05-7026-05 F05-3523-05	FUSE (SEMK®) (250V T3.5A) FUSE (UL) (250V 7A) FUSE (250V 3.5A)	X KP UUEM	
	-		* *	H01-8511-04 H10-3847-02 H10-3848-02 H25-0223-04 H25-0232-04	ITEM CARTÓN CASE POLYSTYRENE FOAMED FIXTURE POLYSTYRENE FOAMED FIXTURE PROTECTION BAG (750X350X0.03) PROTECTION BAG (235X350X0.03)		
₽	14 16	2B,2C 1C		J02-1013-05 J42-0083-05 J61-0307-05	FOOT POWER CORD BUSHING WIRE BAND		
	20 21 22	2A 2B 2A	*	K27-0742-14 K27-1966-04 K27-1965-04	KNOB (BUTTON) SPEAKER A,B KNOB (BUTTON) METER RANGE KNOB (BUTTON) POWER		
	26 26	1B 1B		L01-7901-05 L01-7905-05	POWER TRANSFORMER POWER TRANSFORMER	KP UU <u>E</u> MX	
	С	2A,2B		N30-3006-46	PAN HEAD MACHINE SCREW		
-	S1	1A		S40-1094-05	PUSH SWITCH (PNWER)		
1	C1			C91-0647-05	UNIT (X00-2392-72: X) CERAMIC 0.01UF P	Ix I	
	38	1B		J13-0054-05 J61-0307-05	FUSE CLIP WIRE BAND	X X	
	S1			S31-2126-05	SLIDE SWITCH (POWER TYPE)	X	
	POV	VER AN	/IPL	IFIER UNIT (X07-	2460-10: K, P, 0-21: U, <u>UE</u> , M, 0-7	1: X)	
	D21 -32 PL1 -2	2B 2B		B30-0431-05 B30-1140-05	LED(LN21CPH) LAMP (12V,O.1A)		
	C1 ,2 C3 ,4 C5 ,6 C7 ,8 C9 ,10		-	CE04LW1V4R7M CE04LW1A101M CC45FSL1H221J CF92FV1H223J CC45FSL1H470J	ELECTR® 4.7UF 35WV ELECTR® 100UF 10WV CERAMIC 220PF J MF 0.022UF J CERAMIC 47PF J		

E: Scandinavia & Europe K: USA

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15

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	参照番号	位置	Parts 新	部品番号	部品名/規格	nation marks 仕 向備考		
	KM-208							
	1 2	1A 2A	*	A01-1741-01 A20-5754-02	METALLIC CABINET PANEL ASSY			
	3	2A	*	B10-1003-03 B46-0092-03 B46-0094-03 B46-0095-03 B46-0096-13	FRONT GLASS WARRANTY CARD WARRANTY CARD WARRANTY CARD WARRANTY CARD WARRANTY CARD	K U <u>UE</u> UU <u>E</u> X		
			*	B46-0121-03 B50-9623-00 B50-9624-00 B50-9625-00 B58-0223-04	WARRANTY CARD INSTRUCTION MANUAL INSTRUCTION MANUAL INSTRUCTION MANUAL CAUTION CARD (PRE-SET 120V)	P PMX M U		
	444			B58-0513-04	CAUTION CARD (PRESET220-240)	UE		
A	10 10 10	10 10 10		E30-0812-05 E30-1341-05 E30-2209-05	AC POWER CORD AC POWER CORD AC POWER CORD	U <u>UE</u> M X KP		
A	F1 F1 F1 F2	10 10 10		F05-3522-05 F05-7026-05 F05-3523-05	FUSE (SEMK®) (250V T3.5A) FUSE (UL) (250V 7A) FUSE (250V 3.5A)	X KP U <u>UE</u> M		
			* *	H01-8511-04 H10-3847-02 H10-3848-02 H25-0223-04 H25-0232-04	ITEM CARTÓN CASE PÖLYSTYRENE FÖAMED FIXTURE PÖLYSTYRENE FÖAMED FIXTURE PROTECTION BAG (750X350X0.03) PROTECTION BAG (235X350X0.03)			
Δ	14 16	2B,2C 1C		J02-1013-05 J42-0083-05 J61-0307-05	FOOT POWER CORD BUSHING WIRE BAND			
	20 21 22	2A 2B 2A	*	K27-0742-14 K27-1966-04 K27-1965-04	KNOB (BUTTON) SPEAKER A.B KNOB (BUTTON) METER RANGE KNOB (BUTTON) POWER			
	26 26	1B 1B		L01-7901-05 L01-7905-05	POWER TRANSFORMER POWER TRANSFORMER	KP U <u>UE</u> MX		
	С	2A,2B		N30-3006-46	PAN HEAD MACHINE SCREW			
	S1	1A			PUSH SWITCH (POWER)			
	C1				UNIT (X00-2392-72: X)	l v		
Δ	C1 38	1B		C91-0647-05 J13-0054-05	FUSE CLIP	X		
				J61-0307-05	WIRE BAND	X		
Δ	S1 POV	VER AN	ЛPI	S31-2126-05 IFIER UNIT (X07-2	SLIDE SWITCH (POWER TYPE) 2460-10: K, P, O-21: U, UE, M, O-7	1: X)		
	D21 -32 PL1 ,2	2B 2B		B30-0431-05 B30-1140-05	LED(LN21CPH) LAMP (12V, 0. 1A)			
	C1 ,2 C3 ,4 C5 ,6 C7 ,8 C9 ,10			CE04LW1V4R7M CE04LW1A101M CC45FSL1H221J CF92FV1H223J CC45FSL1H470J	ELECTR® 4.7UF 35WV ELECTR® 100UF 10WV CERAMIC 220PF J MF 0.022UF J CERAMIC 47PF J			

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⚠ indicates safety critical components.

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	参照番号	位 置	新	部品番号	部 品 名 / 規 格	仕 向 備考
	C11 ,12 C13 ,14 C15 ,16 C17 ,18 C19 ,20		*	CC45FSL1H030C CF92FV1H102J CE04LW1H330M C90-1394-05 CE04LW1E101M	CERAMIC 3.OPF C MF 1000PF J ELECTRØ 33UF 50WV ELECTRØ 10000UF 90WV ELECTRØ 100UF 25WV	
	C21 C22 C23 ,24 C25 ,26 C27	-	*	CEO4LW2A220M CEO4LW1V221M CF92FV1H153J CK45FE2H103P CEO4LW1C220M	ELECTR® 22UF 10DWV ELECTR® 22OUF 35WV MF 0.015UF J CERAMIC 0.010UF P ELECTR® 22UF 16WV	
	C28 C29 C30 C31 C32	-		C90-1334-05 CEO4LW1V4R7M CEO4LW1C33OM CF92FV1H223J CC45FSL1H271J	NP-ELEC 47UF 10WV ELECTR® 4.7UF 35WV ELECTR® 33UF 16WV MF 0.022UF J CERAMIC 270PF J	
	C33 ,34 C35 -38 C39 ,40 C41 C42 ,43		*	CE04LW1V470M CE04LW1V100M CC45FSL1H080D CE04LW1V100M CK45FF1H103Z	ELECTR® 47UF 35WV ELECTR® 10UF 35WV CERAMIC 8.OPF D ELECTR® 10UF 35WV CERAMIC 0.010UF Z	
7	C44			C91-0971-05	FILM 0.01UF 250WV	KPUUEM
2	30 E1 E2 E2 E3	10 10 10 10 10		E03-0078-05 E13-0229-05 E23-0077-05 E23-0149-05 E11-0162-05	AC QUTLET PHONO JACK (2P) TERMINAL TERMINAL PHONE JACK (3P)	N <u>NE</u> W
	E4	1C		E20-0823-05	LOCK TERMINAL BOARD(8P)	
	39	1B		J13-0041-05	FUSE CLIP	KPUUEM
	L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL	
				N09-0333-05 N09-1202-05 N09-1777-05	TAPPING SCREW (3X12) TAPPING SCREW (3X14) SEMS (TAPTITE SCREW)	
	CP1 ,2 R19 ,20 R25 ,26 R27 ,28 R29 ,30			R90-0187-05 RD14GB2E621J RD14GB2E102J RD14GB2E132J RD14GB2E182J	MULTI-COMP 0.22X2 K 5W FL-PROOF RD 620 J 1/4W FL-PROOF RD 1.0K J 1/4W FL-PROOF RD 1.3K J 1/4W FL-PROOF RD 1.8K J 1/4W	
	R31 ,32 R33 ,34 R35 -38 R39 -42 R43 -46		*	RD14GB2EB22J RD14GB2E912J RD14GB2E100J RD14GB2E221J RD14GB2E2R2J	FL-PR00F RD 8.2K J 1/4W FL-PR00F RD 9.1K J 1/4W FL-PR00F RD 10 J 1/4W FL-PR00F RD 220 J 1/4W FL-PR00F RD 2.2 J 1/4W	
	R65 R66 R74 R75 ,76 R77 ,78			RS14KB3D100J RS14KB3D100J RS14KB3D121J RS14KB3A100J RS14KB3D561J	FL-PR00F RS 10 J 2W FL-PR00F RS 10 J 2W FL-PR00F RS 120 J 2W FL-PR00F RS 10 J 1W FL-PR00F RS 560 J 2W	
	R79 ,80 R81 VR1 ,2		*	RS14KB3D472J RD14GB2E100J R12-1083-05	FL-PROOF RS 4.7K J 2W FL-PROOF RD 10 J 1/4W TRIMMING POT.(1K)	
	K1	2B		S51-2078-05	MAGNETIC RELAY	

E: Scandinavia & Europe K: USA

16

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♠ indicates safety critical components.

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参照番号	位置	Parts 新	部品番号	部品名/規格		備考
S1 52 S3 54	1B 1B 2B		\$40-2351-05 \$42-2163-05 \$31-2127-05 \$31-2126-05	PUSH SWITCH MULTIPLE PUSH SWITCH SLIDE SWITCH (4Ω→8Ω) SLIDE SWITCH (PØWER TYPE)	UNEWX	
D1 ,2 D1 ,2 D3 -6 D3 -6 D7 -10			155133 155176 155131 155178 155133	DINDE DINDE DINDE DINDE DINDE		
D7 -10 D13 D14 -17 D18 .19 D18 .19		*	155176 515VB20 55566B HZS18N(B) RD18ES(B)	DINDE DINDE DINDE ZENER DINDE ZENER DINDE		
D20 D20 IC1 IC2 •3 Q1 -4			HZS24N(B) RD24ES(B) UPC1237HA AN6882 2SC1845(F,E)	ZENER DIØDE ZENER DIØDE IC(PØWER AMP) IC(7PT LED LEVEL METER DRIVER) TRANSISTØR		
05 -8 09 ,10 011 ,12 013 ,14 015 ,16			2SC745(A)(Q,P) 2SA733(A)(Q,P) 2SA1124(Q,R) 2SC3419(Y) 2SC3944A(Q,R)	TRANSISTÖR TRANSISTÖR TRANSISTÖR TRANSISTÖR TRANSISTÖR		
017 ,18 019 ,20 021 ,22 023 ,24 025 -28			25A1535A(Q,R) 2SC2922LB 2SA1216LB 2SC945(A)(Q,P) 2SA733(A)(Q,P)	TRANSISTÖR TRANSISTÖR TRANSISTÖR TRANSISTÖR TRANSISTÖR		
029 ,30 031 ,32 033 034 035			2SC2631(Q,R,S) 2SD1302(S,T) 2SA992(F,E) 2SC2590(Q,R) 2SC945(A)(Q,P)	TRANSISTØR TRANSISTØR TRANSISTØR TRANSISTØR TRANSISTØR TRANSISTØR		
036 037			2SA733(A)(Q,P) 2SC2003(L,K)	TRANSISTØR TRANSISTØR		

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UE: AAFES(Europe)

X: Australia

KM-208

SPECIFICATIONS

Rated Power Output

150 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

Both channels driven (8 ohms, 1 kHz) Music Power (8 ohms) Total Harmonic Distortion	
20 Hz to 20,000 Hz	
1 kHz	into 8 ohms 0.002% at 1/2 rated power into 8 ohms
Inter Modulation Distortion	
(60 Hz:7 kHz = 4:1)	0.002% at rated power into 8 ohms
Frequency Response	5 Hz to 200 kHz, +0 dB, -3 dB
Power Bandwidth	
(0.2 % T.H.D., 8 ohms)	10 Hz to 50 kHz
Signal-to-Noise Ratio (IHF-A)	120 dB (MAIN IN)
Damping Factor	More than 35 at 50 Hz
General	
Power Consumption	5 A (USA and Canada) 350 W (Others)
AC Outlets	Switched 2, Unswitched 1
	(Except some area)
Dimensions	W 420 mm (16-9/16")
	H 123 mm (4-13/16")
	D 269 mm (10-9/16")
Weight (Net)	8.5 kg (18.7 lb)

Note:

We follow a policy of continuous advancements in developments. For this reason specifications may be changed without notice.

Note

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

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